

Amendments to the Claims

Please cancel claims 35-46 and add new claims 47-66.

1-46. (Cancelled)

47. (New) A method of operating a primary communication system to provide a communication service to a secondary communication system, the method comprising:

- in a first adaptor assembly, receiving a primary communication signal from the primary communication network, wherein the primary communication signal has primary overhead and a primary payload;

- in the first adaptor assembly, receiving a secondary communication signal from first equipment in the secondary communication network, wherein the secondary communication signal has secondary overhead and a secondary payload;

- in the first adaptor assembly, locating unused space in the primary overhead, inserting the secondary overhead into the unused space in the primary overhead to form transport overhead, combining the primary payload and the secondary payload to form a transport payload, and combining the transport overhead and the transport payload to form a transport communication signal;

- transferring the transport communication signal from the first adaptor assembly to a second adaptor assembly;

- in the second adaptor assembly, removing the secondary overhead and the secondary payload from the transport communication signal and combining the secondary overhead and the secondary payload to form the secondary communication signal; and

- transferring the secondary communication signal from the second adaptor assembly to second equipment in the secondary communication network.

48. (New) The method of claim 47 wherein the unused space comprises unused Synchronous Optical Network (SONET) Line Overhead (LOH) space.

49. (New) The method of claim 47 wherein the unused space comprises unused Synchronous Optical Network (SONET) Section Overhead (SOH) space.

50. (New) The method of claim 47 wherein the unused space comprises unused Synchronous Digital Hierarchy (SDH) Multiplexer Section Overhead (MSOH) space.

51. (New) The method of claim 47 wherein the unused space comprises unused Synchronous Digital Hierarchy (SDH) Regenerator Section Overhead (RSOH) space.

52. (New) The method of claim 47 wherein the secondary overhead comprises Synchronous Optical Network (SONET) Line Overhead (LOH).

53. (New) The method of claim 47 wherein the secondary overhead comprises Synchronous Optical Network (SONET) Section Overhead (SOH).

54. (New) The method of claim 47 wherein the secondary overhead comprises Synchronous Digital Hierarchy (SDH) Multiplexer Section Overhead (MSOH).

55. (New) The method of claim 47 wherein the secondary overhead comprises Synchronous Digital Hierarchy (SDH) Regenerator Section Overhead (RSOH).

56. (New) The method of claim 47 wherein the secondary overhead comprises Operation, Administration, and Maintenance (OAM) information.

57. (New) A primary communication system to provide a communication service to a secondary communication system, the primary communication system comprising:

a first adaptor assembly configured to receive a primary communication signal from the primary communication network wherein the primary communication signal has primary overhead and a primary payload, receive a secondary communication signal from first equipment in the secondary communication network wherein the secondary communication signal has secondary overhead and a secondary payload, locate unused space in the primary overhead, insert the secondary overhead into the unused space in the primary overhead to form transport overhead, combine the primary payload and the secondary payload to form a transport payload, combine the transport overhead and the transport payload to form a transport communication signal, and transfer the transport communication signal; and

a second adaptor assembly configured to receive the transport communication signal from the first adaptor assembly, remove the secondary overhead and the secondary payload from the transport communication signal, combine the secondary overhead and the secondary payload to form the secondary communication signal, and transfer the secondary communication signal to second equipment in the secondary communication network.

58. (New) The primary communication system of claim 57 wherein the unused space comprises unused Synchronous Optical Network (SONET) Line Overhead (LOH) space.

59. (New) The primary communication system of claim 57 wherein the unused space comprises unused Synchronous Optical Network (SONET) Section Overhead (SOH) space.

60. (New) The primary communication system of claim 57 wherein the unused space comprises unused Synchronous Digital Hierarchy (SDH) Multiplexer Section Overhead (MSOH) space.

61. (New) The primary communication system of claim 57 wherein the unused space comprises unused Synchronous Digital Hierarchy (SDH) Regenerator Section Overhead (RSOH) space.

62. (New) The primary communication system of claim 57 wherein the secondary overhead comprises Synchronous Optical Network (SONET) Line Overhead (LOH).

63. (New) The primary communication system of claim 57 wherein the secondary overhead comprises Synchronous Optical Network (SONET) Section Overhead (SOH).

64. (New) The primary communication system of claim 57 wherein the secondary overhead comprises Synchronous Digital Hierarchy (SDH) Multiplexer Section Overhead (MSOH).

65. (New) The primary communication system of claim 57 wherein the secondary overhead comprises Synchronous Digital Hierarchy (SDH) Regenerator Section Overhead (RSOH).

66. (New) The primary communication system of claim 57 wherein the secondary overhead comprises Operation, Administration, and Maintenance (OAM) information.